



Item: BF: A-3

Tuesday, June 4, 2019

**SUBJECT: APPROVAL OF THE FLORIDA ATLANTIC UNIVERSITY
2019-20 FIXED CAPITAL OUTLAY (FCO) BUDGET**

PROPOSED BOARD ACTION

Approval of the Florida Atlantic University 2019-20 Fixed Capital Outlay Budget.

BACKGROUND INFORMATION

This year the Florida Board of Governors has provided the State University System (SUS) with a standard template for presenting and obtaining approval of the 2019-20 Fixed Capital Outlay budget. The threshold limit for reporting use of FCO has been established at \$1 million by project and all funding sources.

The BOG deadline for this submission is August 1, 2019.

IMPLEMENTATION PLAN/DATE

Upon Board approval.

FISCAL IMPLICATIONS

The Fixed Capital Budget identifies the University's capital projects for FY20.

**Supporting Documentation: Fiscal Year 2019-20 Annual Capital Outlay Budget Project List
ESCO Projects Presentation**

**Presented by: Stacy Volnick, VP Administrative Affairs and Chief Administrative Officer
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FISCAL YEAR 2019-20
ANNUAL CAPITAL OUTLAY BUDGET
As of May 24, 2019

No.	Project Number	PROJECT TITLE	FUNDING SOURCE	TOTAL PROJECT COST	AVAILABLE APPROVED BUDGET	OBLIGATIONS	ACTUALS TO DATE (as of 5/22/19)	AVAILABLE BALANCE TO BE EXPENDED IN FY19/20	FY 19/20 PROJECTED ADDITIONAL FUNDING
1	BT609	Cooling Tower Replacement	PECO	3,500,000	3,500,000	1,328	689,755	2,808,917	-
2	BT620	The Schmidt Family Complex for Academic & Athletic Excellence	Foundation / Auxiliary	72,457,906	64,414,056	35,650,411	27,324,123	1,439,522	8,043,850
3	BT631	Jupiter STEM/Behavioral Sciences Bldg.	PECO	35,027,247	12,881,247	1,889,150	20,858	10,971,239	11,000,000
4	BT685	Student Union Expansion & Renovation - Student Affairs	CITF / Auxiliary	26,315,534	22,766,555	5,186,824	1,936,823	15,642,908	3,548,979
5	BT653	Boca Campus Housing Project - 600 Beds	Bond Financed	57,800,000	-	-	-	-	57,800,000
6	BT654	Jupiter Campus Housing - 150 Beds	Bond Financed	15,200,000	-	-	-	-	15,200,000
7	BT645	Gladys Davis Pavilion Addition (Global Engagement Expansion) - Academic Affairs	Auxiliary	2,982,272	2,774,522	-	147,368	2,627,154	207,750
8	BT648	FY18 - Remodeling/Renovation/Repair & Maintenance	PECO	2,356,654	2,356,654	494,133	488,385	1,374,136	-
9	BT659	FY19 - Remodeling/Renovation/Repair & Maintenance	PECO	2,536,551	2,536,551	-	-	2,536,551	-
10	TBD	New A.D. Henderson University School	PECO / Foundation	52,553,700	-	-	-	-	11,500,000
11	BT687	Henderson Lab School - Palm Beach County (Maint. Repair. Renov.)	PECO	4,677,861	4,677,861	223,991	532,422	3,921,448	-
12	P-7169 / P-7934 P-7936	Renovation of Social Science Bldg. - Social Works	Foundation / CF	2,480,000	2,150,000	697,773	1,387,723	64,505	330,000
13	P-7370 / P7419 P7534 / P7584 P7861 / P7931	Bldg. 71 - College of Medicine Various Projects - Research	CF / Auxiliary	1,472,543	1,472,543	309,930	557,015	605,598	-
14	P-7399	Bldg.31D - Lifelong Learning Renovation	Auxiliary	2,000,000	2,000,000	217,160	1,505,234	277,606	-
15	P-7674	T-06 - Renovate space for two Architectural Studios - Academic Affairs	CF / Auxiliary / E&G	\$584,869	584,869	408,117	97,752	79,000	-
16	Multiple	Critical Project Needs - Lift Station / Elevators / Air Handling Units	CF	1,000,000	880,000	279,926	-	600,074	120,000
17	P-7846 & P-7880	Bldg. 96 Engineering East Renovations (Fab Lab & Server Room Relocation)	Foundation / E&G	1,050,000	26,640	-	18,195	8,445	1,023,360
18	Multiple	Bldg. 3 Wimberly Library - Machine Perception and Cognitive Robotics Lab	Foundation / E&G	678,000	120,000	-	43,926	76,074	558,000
19	Multiple	Vivarium / Research Renovations - Research	CF/Auxiliary	1,000,000	16,265	16,265	-	-	983,735
20	P-7518	Bldg. 9 - Arts & Letters - Stage Rigging & Lighting System Replacement - Academic Affairs	E&G / Auxiliary	1,600,000	909,125	8,200	14,500	886,425	690,875
21	P-7890	Ritter Gallery Renovations	Foundation / E&G	100,000	-	-	-	-	100,000
22	P-7781	Expansion of CAPS - Student Affairs	Auxiliary	750,000	26,030	22,635	-	3,395	723,970
23	P-7794	Relocation of Starbucks -Business Services	Auxiliary	789,123	789,123	66,160	-	722,963	-
24	P-7796	Expansion of Food Court - Business services	Auxiliary	1,665,600	1,665,600	-	9,210	1,590,230	-
25	P-7797	Live Oak Pavilion Renovation to Lime - Business Services	Auxiliary	1,200,000	1,200,000	-	-	1,200,000	-
26	P7834 / P7884 / P7928 / P7929	Food Venue Renovations - Business Services	Auxiliary	800,000	-	-	-	-	800,000
27	P-7768	FAU Stadium LED Lights /Panels / Cabanas -Athletics	Foundation / Athletics	1,030,000	1,030,000	19,568	-	1,010,432	-
28	P-7953	Bldg. 38 - Renovate gymnasium (interior & exterior scope of work) - Athletics	Foundation / Athletics	\$1,200,000	-	-	-	-	1,200,000
29	P-7932	Davie - Bldg. 49 - Renovate E-learning - Academic Affairs	Auxiliary	\$250,000	-	-	-	-	250,000
30	TBD	Osher Lifelong Learning Jupiter Roof Replacement	Auxiliary	\$400,000	-	-	-	-	400,000
31	P-7223	HBOI - Link Bldg. Roof replacement	PECO / CF	\$274,234	274,234	-	-	-	-
32	TBD	HBOI - South Aquaculture Greenhouse H2, H3, H4 (USDA Legislative Appropriation)	C&G	\$600,000	-	-	-	-	600,000
33	TBD	HBOI - Sea Ventures Production Facility	Private	\$500,000	-	-	-	-	500,000
34	TBD	HBOI - Aquaculture Lab HB36 (USDA Legislative Appropriation)	C&G	\$500,000	-	-	-	-	500,000
35	TBD	HBOI - Chiller R'Newal - Research Lab 1 and Link Bldg. - Research	PECO / CF	\$299,600	-	-	-	-	299,600
36	ESCO	Electrical Infrastructure Upgrades - FPL	Bank Financed w/ Energy Savings	8,500,000	270,000	-	-	270,000	9,800,000
37	ESCO	Boca and Jupiter Campus Energy Plant & STEM Lab Bldg. Upgrades (Siemens)	Bank Financed w/ Energy Savings	8,500,000	250,000	-	-	250,000	10,300,000
		TOTALS		\$314,631,694	\$129,571,875	\$45,491,571	\$34,773,289	\$48,966,621	\$136,480,119

CF Carry Forward
C&G Contracts & Grants
E&G Education & General -



**Florida Atlantic University
Administrative Affairs**

Energy Savings Contract (ESCO) Projects

Proposed Projects & Scope

- **Electrical Infrastructure Project**

Increase resiliency and reduce deferred and operational maintenance of electrical and mechanical systems at the Boca central energy plant

- **Energy Conservation Project**

Upgrade and repair/replace equipment within Boca and Jupiter Lab Buildings and repair systems at Boca Satellite Energy Plant and Jupiter Central Energy Plant

Process:

- FAU issued an Request for Qualifications (RFQ) for each project and selected a team to provide an Investment Grade Audit (IGA) focusing on proposed project scope and potential energy savings.

- Selected Firms:

Electrical Infrastructure Project – FPL Services

Energy Conservation Project - Siemens

FPL - Electrical Infrastructure Project

Electrical Solutions:

- Replace 50 year old transformers & provide redundancy
- Convert overhead transformer feeders to underground
- Replace outdated alternate feeders with new feeders



Mechanical Solutions:

- Replace two old chillers with new upsized chiller
- Replace pumps and improve efficiency
- Replace controls and optimize existing Energy Management System

FPL - Electrical Infrastructure Project

Projected Costs & Guaranteed Savings:

Energy Cost Measure (ECM)	Cost	Energy Savings	Simple Payback
Electrical Scope	\$4,701,472	\$439,898	
Mechanical Scope	\$4,043,406	\$404,615	
Total	\$8,744,878	\$844,513	9.8 yrs

Financing:

FAU issued ITN for Financing A

Anticipated interest under 3% for 10 year term of contract

FPL – Projected Cash Flow

	0	1	2	3	4	5	6	7	8	9	10	Totals
	Const. Period											
ESTIMATED SAVINGS												
Utility Savings	\$ -	\$ 439,898	\$ 453,095	\$ 466,888	\$ 480,888	\$ 495,109	\$ 509,962	\$ 525,261	\$ 541,019	\$ 557,250	\$ 573,967	\$ 5,042,938
Mechanical Electrical Savings	\$ 41,500	\$ 404,615	\$ 418,753	\$ 429,256	\$ 442,134	\$ 455,398	\$ 469,060	\$ 483,131	\$ 497,625	\$ 512,554	\$ 527,931	\$ 4,679,958
Pump Savings (note 9)	\$ 30,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 30,000
Maintenance Savings (5 yrs)	\$ -	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 100,000
Six months of rate change after ownership transfer (note 8)	\$ 219,949	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 219,949
Total Savings	\$ 291,449	\$ 864,513	\$ 889,848	\$ 915,944	\$ 942,822	\$ 970,507	\$ 979,022	\$ 1,008,393	\$ 1,038,644	\$ 1,069,804	\$ 1,101,898	\$ 10,072,844
EXPENSES												
Financed Cost (note 6)	\$ (291,349)	\$ (864,413)	\$ (889,748)	\$ (915,844)	\$ (942,722)	\$ (970,407)	\$ (978,922)	\$ (1,008,293)	\$ (1,038,544)	\$ (1,069,704)	\$ (1,028,478)	\$ (9,998,424)
TOTAL EXPENSES	\$ (291,349)	\$ (864,413)	\$ (889,748)	\$ (915,844)	\$ (942,722)	\$ (970,407)	\$ (978,922)	\$ (1,008,293)	\$ (1,038,544)	\$ (1,069,704)	\$ (1,028,478)	\$ (9,998,424)
ANNUAL GUARANTEED NET CASH FLOW	\$ 100	\$ 100	\$ 100	\$ 100	\$ 100	\$ 100	\$ 100	\$ 100	\$ 100	\$ 100	\$ 73,420	\$ 74,420
CUMULATIVE CASH FLOW FINANCE PERIOD:	\$ 100	\$ 200	\$ 300	\$ 400	\$ 500	\$ 600	\$ 700	\$ 800	\$ 900	\$ 1,000	\$ 74,420	\$ 74,420
ESCROW EARNINGS (note 3)	\$ 26,845											\$ 26,845
CUMULATIVE CASH FLOW WITH ESCROW EARNINGS	\$ 26,845	\$ 27,045	\$ 27,145	\$ 27,245	\$ 27,345	\$ 27,445	\$ 27,545	\$ 27,645	\$ 27,745	\$ 27,845	\$ 101,265	\$ 101,265

Notes:

- (1) Intentionally blank
- (2) Project duration is 12 months.
- (3) IDC reflects interest accrued to principal during construction based on funds project price placed in to escrow to hold the rate during construction. Earnings are interest earned on the funds placed into escrow.
- (4) Cost of capital is based upon indicative market rates as of 5-14-19
- (5) Rate to be set upon final selection and timing to close. Assumes tax exempt rate
- (6) Intentionally Blank
- (7) Based upon total finance amount and rate. Assumes semi annual in ARREARS payments. Includes assumed funding to escrow to hold rate with IDC per 3
- (8) Issuance fees TBD
- (9) If FAU accepts ownership upon NTP, then upon Transformer replacement, 6 months of rate change savings will be recognized during construction period
Number of months with new rate 6
- (10) Pump savings 6 months at \$5K/month
- (11) Reflects added costs for additional HVAC equipment (cooling tower, pump, VFD) with sales tax.
- (12) Reflects install cost for Cooling Tower
- (13) Added potential scope within purchase authorization.
- (14) Included in items 10, 11 and 12 are contingency funds related to sales tax, install costs and equipment costs. Those contingencies plus the \$40K in sales tax contingency in Transformer/Chillers total to approximately \$422K. Any unused funds remaining in escrow at end of construction will be applied by lender to offset initial debt service payments.

Project	Assumptions			
	Cost	Annual Elec. Savings	Annual Mechanical Savings	Maintenance Savings
Transformer/Chillers	\$ 7,668,126	\$ 439,898	\$ 404,615	\$ 20,000
Added Scope (10)	\$ 426,150			
Cooling Tower Install (11)	\$ 130,000			
Maximum Scope Add (12)	\$ 298,000			
Sub-Total	\$ 8,522,276	\$ 439,898	\$ 404,615	\$ 20,000
Issuance Fees (7)	\$ -	\$ -	\$ -	\$ -
Subtotal	\$ 8,522,276	\$ 439,898	\$ 404,615	\$ 20,000
IDC (3)	\$ 222,602			
Total (all ECMs)	\$ 8,744,878	\$ 439,898	\$ 404,615	\$ 20,000
Total Project Cost	\$ 8,744,878			

Cost of capital: (4)	2.612 %
Earnings Rate	0.20 %
Annual energy /water escalation	3.00 %
Annual maint escalation	3.00 %
Finance term	10 years

Siemens – Energy Conservation Project

Lab Upgrades & Buildings:

- Optimize lab efficiency
 - Improve safety and performance
 - Improve ventilation
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- Boca Campus: Bldgs. 1, 43, 55 and 71
 - Jupiter Campus: Bldgs. MC17 and MC19



Siemens – Energy Conservation Project

Boca Satellite Energy Plant:

- Increase capacity and provide redundancy
- Optimize plant efficiency



Jupiter Central Energy Plant:

- Replace failed chiller and increase capacity
- Improve reliable backup electrical system



Siemens – Energy Conservation Project

Projected Costs & Guaranteed Savings:

Energy Cost Measure (ECM)	Cost	Energy Savings	Simple Payback
Satellite Plant - Boca	\$1,100,233	\$97,795	
Lab Buildings - Boca	\$3,901,314	\$367,375	
Central Plant - Jupiter	\$1,829,283	\$63,156	
Lab Buildings - Jupiter	\$1,667,364	\$287,298	
Total	\$8,498,195	\$815,724	9.8 yrs

Financing:

FAU issued ITN for Financing A

Anticipated interest under 3% for 10 year term of contract

Siemens – Projected Cash Flow

Year	1	2	3	4	5	6	7	8	9	10
PROGRAM SAVINGS										
Energy Savings	\$ 815,725	\$ 836,118	\$ 857,021	\$ 878,447	\$ 900,408	\$ 922,918	\$ 945,991	\$ 969,641	\$ 993,882	\$ 1,018,729
Ops / Maint Savings	\$ 167,500	\$ 171,688	\$ 175,980	\$ 180,379	\$ 184,889	\$ 189,511	\$ 194,249	\$ 199,105	\$ 204,082	\$ 209,185
Construction Savings	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Annual Gross Savings	\$ 983,225	\$ 1,007,806	\$ 1,033,001	\$ 1,058,826	\$ 1,085,296	\$ 1,112,429	\$ 1,140,240	\$ 1,168,746	\$ 1,197,964	\$ 1,227,913
<i>Cumulative Savings</i>	\$ 983,225	\$ 1,991,031	\$ 3,024,032	\$ 4,082,857	\$ 5,168,154	\$ 6,280,583	\$ 7,420,822	\$ 8,589,568	\$ 9,787,532	\$ 11,015,446
PROGRAM COSTS										
Capital Cost Savings	\$ 198,183	\$ 198,183	\$ 198,183	\$ 198,183	\$ 198,183	\$ 198,183	\$ 198,183	\$ 198,183	\$ 198,183	\$ 198,183
	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Principal & Interest	\$1,018,887	\$ 1,018,887	\$ 1,018,887	\$ 1,018,887	\$ 1,018,887	\$ 1,018,887	\$ 1,018,887	\$ 1,018,887	\$ 1,018,887	\$ 1,018,887
Service Programs SP	\$ 99,877	\$ 102,873	\$ 105,960	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Performance Assurance	\$ 38,914	\$ 40,081	\$ 41,284	\$ 42,522	\$ 43,798	\$ 45,112	\$ 46,465	\$ 47,859	\$ 49,295	\$ 50,774
Annual Gross Costs	\$ 1,157,678	\$ 1,161,842	\$ 1,166,131	\$ 1,061,409	\$ 1,062,685	\$ 1,063,999	\$ 1,065,352	\$ 1,066,746	\$ 1,068,182	\$ 1,069,661
<i>Cumulative Costs</i>	\$ 1,157,678	\$ 2,319,520	\$ 3,485,651	\$ 4,547,060	\$ 5,609,745	\$ 6,673,744	\$ 7,739,096	\$ 8,805,843	\$ 9,874,025	\$ 10,943,686
CASH FLOW										
Annual Net Cash Flow	\$ 23,730	\$ 44,147	\$ 65,054	\$ 195,600	\$ 220,795	\$ 246,613	\$ 273,071	\$ 300,183	\$ 327,966	\$ 356,436
<i>Cumulative Net Cash Flow</i>	\$ 23,730	\$ 67,877	\$ 132,931	\$ 328,531	\$ 549,326	\$ 795,939	\$ 1,069,010	\$ 1,369,193	\$ 1,697,158	\$ 2,053,594

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Benefits to FAU:

- Energy performance contracts allow FAU to finance projects based on guaranteed energy savings to pay back loan
- These project will replace failing equipment that will improve utility efficiency
- New equipment will reduce cost of ongoing maintenance and repair cost and allow for these funds to be redirected to other areas